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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,981	05/23/2001	Amanda Maria Elsome	JMYT-233US	3599

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EXAMINER	
MADSEN, ROBERT A	

ART UNIT	PAPER NUMBER
1761	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/763,981	Applicant(s) ELSOME ET AL.
	Examiner Robert Madsen	Art Unit 1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,7 and 9-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,7 and 9-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed November 29, 2004 has been entered. Claims 13-36 have been added. Claims 1-3,6,7,9-36 remain pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> ((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13-15, 18, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Walt (US 5512490).

4. Walt teaches a thin film sensor wherein the indicator includes a palladium-Alizarin complex, immobilized in a polyester film with resin as recited in claims 13,15,18(Abstract, Column 9, lines 25-56, Column 11, lines19-26, Column 16, lines 19-51, Column 23, lines7-11 ,Column 24, line 65, Column 26, line 10 to Column 27, line 28) for detecting sulfur, nitrogen , alcohol, phosphorous, or carbonyl compounds in gas/air as recited in claim 14 (Column 18, line 19 to Column 19, line 54), and thus could be used for detecting food spoilage products in a food package as recited in claim 13.

5. Claims 13,15, 23,24, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Walt (US 5244813).

6. Walt teaches a palladium-Alizarin complex (i.e. note Column 15, line 40) immobilized in a polyester substrate based fiber optic, which may include pva (Column 16, line33 to Column 18, line 36 and Column 20, line 45 to Column 21, line 46) for the detection of carbonyl containing gases in a gaseous environment (Column 8, line 5 to Column 9, line 66 and Column 20, lines 10-44), and thus could be used for detecting food spoilage products in a food package as recited in claim 13.

Claim Rejections - 35 USC § 103

7. Claims 1-3,6,7,9,10,13-21,23,25,28-32,34,36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfbeis et al. (US 5407829) in view of De Castro (US 5834626) and Wallach (US 6495368B1) and Jeffrey et al. (US 5976827) and Moretti et al. (1988) and Werkhoven et al. (1981) and Dojindo Online.

8. Wolfbeis et al. teach a sensor for a method of detecting the quality of food products which includes a detectable component that may be attached to a substrate (e.g. the inner wall of the package in Figure 1) with a barrier layer that is permeable to the items being detected as recited in claim 19 and 30 (Column 3, line 7-19) or may be incorporated within a film of resinous material, as recited in claims 15 ,23, and 36(e.g. item 13 of figure 2), in either case the sensor is adhesively attached to the inside of the package as part of label as recited in claims 25 , 34 and 35 (Column 3, lines 20-25),retained on the inside a food package as recited in claims 16 and 28, a detectable component is released as a chromophore or fluorophore, which may or may not change color under visible light as recited in claims 3, 10,20, 21,31, and 32, and may

require exposing the sensor to non-visible light as recited in 32 (i.e. Column 2, line 53 to Column 3, line 6), when exposed to a gaseous substance as recited in claims 1,9,13, and 29, such as H_2S as recited in claims 2 and14(Column 1, lines 14-30, Column 2, lines 20-65, Column 3, lines 7-40, Column 3, lines52 to Column 4,line 26, Examples). Wolfbeis et al. teach, for example, detecting odorous substances such as hydrogen sulfide , organic sulfides (e.g. mercaptans) , and amines, as well as carbon dioxide as evidence of bacterial decomposition using heavy metal salts including the chromophore or fluorophore, and the particular chromophore or fluorophore selected depends on the type of odorous substance (Column 1, lines 19-30, Column 2, lines 25-40, Examples, and claims). However, Wolfbeis et al. are silent in teaching a palladium-fluorophore or fluorexon complexes that undergoes a ligand exchange per se, as recited in claims 1,6,7,9,13, 17, and 28.

9. With respect to selecting a metal-ligand complex detectable component, De Castro et al. also teach colorimetric indicators for gas analysis wherein the gases tested include sulfides that are applied to polymeric substrates, wherein the change in color can be examined visually or the change in color can be examined after exciting the detectable agent via a particular type of instrumentation . While De Castro et al. admit there are a large variety of detectable components to chose from, De Castro et al. teach transition metal complexes that undergo ligand exchange, in particular, because they are a particularly potent group of detectable components, and the goal of De Castro et al. is to provide sensors that require short time to obtain results and can be packaged in relatively small containers (Abstract , Column 5, lines 35-45,Column 13,

lines 24-29,Column 13, line 43-Column 14, line 52). Therefore, it would have been obvious to modify Wolfbeis et al. and select a transition metal complex that undergoes ligand exchange since De Castro et al. teach transition metal complex that undergoes ligand exchange are a particularly potent group of detectable components and allow one to provide a small sensor that provides a short response time. One would have been substituting one detectable component for another for the same purpose: indicating the presence of sulfides in a gas sensor used to indicate the presence of sulfides via a change in color that can be examined visually or the change in color can be examined after exciting the detectable agent via a particular type of instrumentation.

10. With respect to selecting any one particular metal-ligand complex detectable component, Wallach, who also teaches providing sensors in a food container to detect spoilage, further teaches the particular detectable component selected depends on the type of food product and microbial spoilage expected (Abstract, Column 5, lines 51-55). Jeffrey et al. , who also teach providing sensors to indicate the presences of various gases, further teach selecting a particular fluorophore depends on the desired dynamic ranges and wavelength changes that are detectable by various measuring techniques (Column 4, line 8 to Column 5, line 2). Moretti et al. (page 459) teach using palladium-calcein complexes are suitable transitional metal ligand exchange detectable components to detect sulfur compounds, in particular sulfides, wherein the sulfur binds with the palladium and the calcein is released providing a measurable change in fluorescence. Werkhoven et al. teach palladium-calcein complexes as suitable to detect organosulfur compounds wherein calcein is released providing a measurable change in

fluorescence (Abstract). Calcein, as evidenced by Dojindo Online is synonymous with Fluorexon.

11. Therefore, to select the particular transitional metal-ligand complex of palladium-fluorexon complex, would have been obvious, depending on the particular type of food product, the type of fluorescent measurement used, and the particular type of microbial spoilage detected, since Wallach teaches the particular detectable component select depends on the type of food product and microbial spoilage expected, Jeffrey et al. teach a particular type of fluorophore selected for detecting gases, depends on the desired dynamic ranges and wavelength changes suitable to the particular method of measurement , and Moretti et al. and Werkhoven et al. teach the palladium-fluorexon complex is a suitable transitional metal-ligand complex detectable component for indicating sulfur compounds, which is a component that Wolfbeis et al. wanted to measure.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfbeis et al. (US 5407829) in view of De Castro (US 5834626) and Wallach (US 6495368B1) and Jeffrey et al. (US 5976827) and Moretti et al. (1988) and Werkhoven et al. (1981) and Dojindo Online, as applied to claims 1-3,6,7,9,10,13-21,23,25,28-32,34,36 above, further in view of Walt et al. (US 5512490).

13. Wolfbeis et al. are silent in teaching other specific recited palladium fluorophores, such as Alizarin

14. Walt teaches a thin film sensor wherein the indicator includes a palladium-Alizarin complex, immobilized in a polyester film (Abstract, Column 9, lines 25-56, Column 11, lines19-26, Column 16, lines 19-51, Column 23, lines7-11, Column 24, line 65, Column 26, line 10 to Column 27, line 28) for detecting sulfur, nitrogen, alcohol, phosphorous, or carbonyl compounds in gas/air (Column 18, line 19 to Column 19, line 54), and thus could be used for detecting food spoilage products in a food package as taught by Wolfbeis et al.

15. Therefore, to select any other palladium-fluorophore complex, such as palladium-Alizarin complex, would have been obvious, depending on the particular type of food product, the type of fluorescent measurement used, and the particular type of microbial spoilage detected since Wallach teaches the particular detectable component select depends on the type of food product and microbial spoilage expected, Jeffrey et al. teach a particular type of fluorophore selected for detecting gases, depends on the desired dynamic ranges and wavelength changes suitable to the particular method of measurement , and Walt teaches a thin film sensor wherein the indicator includes a palladium-Alizarin complex, immobilized in a polyester film is suitable for measuring sulfur, nitrogen , alcohol, phosphorous, or carbonyl compounds in gas/air. One would have been substituting one conventional palladium-fluorophore complex for another for the same purpose: detection of compounds comprising sulfur or nitrogen by measuring a change in fluorescence.

16. Claims 12,24,26,27 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfbeis et al. (US 5407829) in view of De Castro (US 5834626) and Wallach (US 6495368B1) and Jeffrey et al. (US 5976827) and Moretti et al. (1988) and Werkhoven et al. (1981) and Dojindo Online, as applied to claims 1-3,6,7,9,10,13-21,23,25,28-32,34,36 above, further in view of Horan (US 6149952)

17. Regarding claims 12,24, and 26, Wolfbeis et al. teach incorporating the detectable component into a gas permeable film or attached to a polymeric substrate, but are silent in teaching a resinous material of polyvinyl alcohol or a substrate of polyester. Horan teaches that such a sensor used to detect spoilage can be incorporated into or attached to either polyvinyl alcohol or polyesters (Column 3, line 15 to Column 4, line 55). Therefore, it would have been obvious to modify Wolfbeis et al. and select a resinous material of polyvinyl alcohol or a substrate of polyester since Wolfbeis et al. teach the incorporating the detectable component into a gas permeable film or attached to a polymeric substrate, and Horan teaches polyvinyl alcohol and polyesters are suitable for either incorporating a food spoilage detector component or attaching a food spoilage detector component. One would have been substituting one particular resinous material or polymeric substrate for another for the same purpose: providing a food spoilage sensor in a food package.

18. Regarding claims 27 and 35, Wolfbeis et al. teach an sensor insert attached to the inside of a package material via incorporation into a film for detecting food spoilage, but are silent in teaching the sensor is incorporated into or into part of the package material. Horan teaches that such a sensor used to detect spoilage can be incorporated

into a package or included as an insert, depending on the intended usage, such as incorporated into food wrap for left-overs or inserts for peanut butter jars (Abstract, Column 8, line 11 to Column 9, line 6). 44,Column 4, lines 1-15). Therefore, it would have been obvious to incorporate the sensor into the packaging material, depending on the intended use of the sensor since (1) Wolfbeis et al. teach the detectable component can be incorporated into a polymeric material and (2) Horan teaches utilizing a spoilage sensor as an insert or incorporated into the packing material depends on the particular use of the sensor (i.e. at home cooking bags or pre-packed food products).

19. Claims 22 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfbeis et al. (US 5407829) in view of De Castro (US 5834626) and Wallach (US 6495368B1) and Jeffrey et al. (US 5976827) and Moretti et al. (1988) and Werkhoven et al. (1981) and Dojindo Online, as applied to claims 1-3,6,7,9,10,13-21,23,25,28-32,34,36 above, further in view of Bacon et al. (US 5030420).

20. Wolfbeis et al. are silent in teaching the sensor indicates the level of spoilage by a plurality of indicia up to danger level.

21. Bacon, who also teaches gas sensor films to yield a visible color change or a color change only using non-visibly light as recited in claim 20(Column 6, line 55 to Column7, line 68, Column 9, lines15-37, Column 10, lines 50-60), further teaches such a film may include a level of contamination up to a danger level such that different colors represent the level of gas detected (Column 13, lines 40-50).

22. Therefore, it would have been obvious to modify Wolfbeis et al. and include a sensor that indicates the level of spoilage by a plurality of indicia up to final level since Bacon et al. teaches a gas sensor may include a level of contamination up to a danger level such that different colors represent the level of gas detected. Further, this would allow the one to compare the present degree of spoilage to the absolute danger level to provide some guidance relative to the shelf life remaining.

Response to Arguments

23. Applicant's arguments filed November 29,2004 with respect to the rejection of claims 1-3,6,9, and 10 under 35 U.S.C. 102(a) as being clearly anticipated by Wheeler have been fully considered and are persuasive, since Wheeler does not teach the palladium is complexed with a ligand that undergoes ligand exchange per se. Therefore, the rejection has been withdrawn. Accordingly, the rejections of claims 7 and 11 under 35 U.S.C. 103(a) as being unpatentable over Wheeler as further in view of Jeffrey et al. (US 5976827) and claim 12 under 35 U.S.C. 103(a) as being unpatentable over Wheeler further in view of Horan (US 6149952) have also been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as set forth above.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Madsen whose telephone number is (571) 272-1402. The examiner can normally be reached on 7:00AM-3:30PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert Madsen
Examiner
Art Unit 1761

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